AMENDMENT TO THE CLAIMS

1. (original) A kind of method for measuring dielectric constant of body endermic tissues and body impedance based on the method of frequency digital sampling and for evaluating body composition, comprising the following steps of:

getting the body weight frequency signal of a testee standing on the platform to measure body weight;

making the positive feedback RC oscillator circuit connected with two ends of capacitance grid sensor generate oscillating frequency related to dielectric constant of body endermic tissues by positioning testee's soles to contact the capacitance grid sensor on the measuring platform;

making the positive feedback RC oscillator circuit connected with two (groups of) electrode plates generate oscillating frequency related to body impedance by positioning testee's soles to contact the two (groups of) electrode plates with certain area on the measuring platform;

introducing the switched capacitors with different capacitance values to the said positive feedback RC oscillator circuit to get several oscillating signals with non-fixed different frequencies related to body impedance;

inputting by keyboard the testee's serial number, height, age, gender, and parameter indicating whether or not an athlete;

through the I/O interface of the microprocessor inputting the measured body weight frequency signals, oscillating frequency signals related to dielectric constant of body endermic tissues and body impedance signals corresponding to non-fixed different frequencies;

through the software of the microprocessor calculating the body fat content, total body water, ratio between

intracellular water and total body water;

displaying the body weight, body fat content, total body water and ratio between intracellular water and total body water on the display.

2. (original) The method according to claim 1, wherein: one end of the said capacitance grid sensor Cm in contact with human's soles is connected with one end of capacitor Ca; and the other ends of the Cm and Ca is respectively connected with the output end of one invertor and input end of the another invertor; and the input end of one invertor is connected with the output end of the another invertor; and wherein oscillating frequency signals related to dielectric constant of body endermic tissues is generated.

3. (original) A method according to claim 1, wherein: the input end of one invertor is connected with the output end of the other invertor; and between the joint of the two invertors and the input end of one invertor, the series-wound circuit comprised by resistor Ra and body impedance element Rm is introduced; and the two ends of the capacitor Ca are connected respectively with the two invertors' two ends which are not connected with each other; and wherein oscillating frequency signals related to body impedance is generated.

4. (original) A method according to claim 1, wherein: the body impedance element Rm is in series connection with resistor Ra1 and then in parallel connection with resistor Ra2; the one end of the circuit in series-parallel connection is connected with the invert end of the D trigger; and the another end is connected with the CD end, CLK end, and GND end of the D trigger; and wherein oscillating frequency signals related to body impedance is generated.

5. (original) A method according to claim 1, comprising the step

of: introducing body impedance element Rm to said positive feedback RC oscillator circuit; switching and introducing C1, C2, …..Cn to said positive feedback RC oscillator circuit; getting several oscillating signals with non-fixed different frequencies related to body impedance Rm.

6. (original) A body composition monitor for measuring dielectric constant of body endermic tissues and body impedance based on the method of frequency digital sampling, comprising measuring unit, which comprises weighing sensor and weighing signal processing circuit, and display unit; wherein the said monitor also includes the said positive feedback RC oscillator circuit for measuring dielectric constant of body endermic tissues and body impedance, the two (groups of ) foot-on electrode plates on the platform, at least more than one capacitance grid sensors, microprocessor, display and keyboard; wherein:

the said foot-on electrode plates and capacitance grid sensor are connected with the said positive feedback RC oscillator circuit;

the said positive feedback RC oscillator circuit, weighing signal processing circuit are in electrical connection with microprocessor;

the said display, keyboard are in electrical connection with microprocessor.

7. (original) Apparatus according to claim 6, wherein: the said measuring unit and display unit are separated as measuring apparatus and display apparatus physically; the said foot-on electrode plates, capacitance grid sensor, the said positive feedback RC oscillator circuit, weighing sensor, weighing signal processing circuit and the microprocessor of measuring apparatus are all positioned on the measuring apparatus; keyboard, display and the microprocessor of the display apparatus are all positioned

on display apparatus.

8. (original) Apparatus according to claim 6, wherein: in the circuit for measuring dielectric constant of body endermic tissues in the said positive feedback RC oscillator circuit and for measuring dielectric constant of body endermic tissues, one end of the capacitance grid sensor Cm is connected with one end of capacitor Ca; the other ends of the Cm and the Ca are respectively connected with the output end of one invertor and input end of the other invertor; resistor Ra is in series connection with body impedance Rm, and the other ends of the series circuit are respectively connected with the input end and the output end of one invertor; the input end of one invertor is connected with the output end of the other invertor.

9. (original) Apparatus according to claim 6, wherein: in the circuit for measuring body impedance in the said positive feedback RC oscillator circuit and for measuring body impedance, the input end of one invertor is connected with the output end of the another invertor; between the joint of the two invertors and the input end of the other invertor, the series-wound circuit comprised by resistor Ra and body impedance Rm is introduced; the two ends of the capacitor Ca are connected respectively with the two invertors' two ends which are not connected with each other.

10. (original) Apparatus according to claim 6, wherein: in the circuit for measuring body impedance in the said positive feedback RC oscillator circuit and for measuring body impedance, body impedance Rm is in series connection with resistor Ra1 and then in parallel connection with resistor Ra2; the one end of the circuit in series-parallel connection is connected with the invert end of the D trigger; and the other end is connected with the CD end, CLK end, and GND end of the D trigger.

11. (original) Apparatus according to claim 6, wherein the said capacitance grid sensors are composed of two non-intersectant electrodes.

12. (original) Apparatus according to claim 6, wherein the said capacitance grid sensors are composed of the two groups of dentiform, nested and non-intersectant electrodes.

13. (original) Apparatus according to claim 6, wherein: the said capacitance grid sensors are composed of two groups of electrodes which are equidistant and circle outward from the circular or rectangular center; and the two groups of electrodes are never intersectant.

14. (original) Apparatus according to claim 6, wherein the said capacitance grid sensors are composed of electrodes that are connected by conductors to become two equidistant and non-touching electrode groups.

15. (original) Apparatus according to claim 7, wherein: the said measuring apparatus includes infrared signal emitting circuit; electrical signal is input from the base electrode of audion T1; the collectors of audion T1 and T2 are connected with one port of infrared emitter~~(36)~~; and the other port of infrared emitter~~(36)~~ is connected with current-limiting resistor R1; infrared emitter ~~(36)~~ emits real-time infrared data signal~~(7)~~; infrared receiver ~~(38)~~ receives the infrared instruction signal emitted by the said display apparatus which is converted to electrical signal and then transmitted from infrared receiver~~(38)~~ to the base electrode of audion T3; the collector of audion T3 is connected with the input level of decoder~~(37)~~; the output level of decoder~~(37)~~ is connected with MCU system~~(20)~~ of the measuring apparatus.

16. (original) Apparatus according to claim 7, wherein: the said display apparatus includes infrared signal transmitting circuit; electrical signal is transmitted from infrared receiver ~~(29)~~ to the base electrode of audion T7; the collector of audion T7 is connected with the interface of MCU system ~~(31)~~ of the display apparatus; the interface of MCU system ~~(31)~~ of the display apparatus sends electrical signal to the input interface of encoder ~~(39)~~, whose output interface is connected with the base electrode of audion T5; the collectors of audion T5 and T6 are connected with one port of infrared emitter ~~(33)~~; and the other port of infrared emitter ~~(33)~~ is connected with current-limiting resistor R4; infrared emitter ~~(33)~~ emits infrared instruction signal ~~(7)~~.